



Four connected health-compliance systems. One 18,000-student university. A pandemic that kept changing the rules.

How Watkyn built Saint Louis University's health-compliance platform on Quickbase and AWS, with HL7 state reporting, Banner and Okta integrations, and HIPAA-governed delivery — and why the university made it permanent.

Client: Saint Louis University · **Sector:** Higher education / student health · **Engagement:** 42 months, 2020–2024 ·

Platform: Quickbase, with a custom AWS web portal, HL7 2.5.1 reporting to Missouri's ShowMeVax immunization information system, and Banner, Okta, and Acuity integrations

The four systems: ContactPath case investigation and contact tracing · clinic vaccination records with HL7 state reporting · the campus vaccination-compliance portal · SLU Health Connect, the university's permanent student-health platform

Relevant for universities and student-health centers, public-health departments, employee-health programs, and agencies that collect records, verify compliance, process exemptions, report to state systems, and need an auditable record under deadline pressure.

Permanent adoption: SLU converted the platform to a perpetual, unlimited-user ContactPath license and took over the portal code, deployment procedures, and day-to-day operations in a structured 2024 handoff.

Summary

By late 2020, Saint Louis University needed disciplined case investigation and contact tracing for a large residential campus. Watkyn deployed [ContactPath®](#), its Quickbase-based case-management application, and configured it screen by screen with SLU's student-health and contact-tracing teams. The engagement grew with the university's pandemic response. Watkyn built the vaccination-records system that reported every dose administered at SLU's clinics to the State of Missouri over HL7. When SLU announced a campus-wide vaccine requirement in June 2021, Watkyn built and launched the compliance portal behind it in about two weeks. And as the emergency receded, the platform grew into SLU Health Connect, the university's system for every required immunization and screening.

The architecture pattern is worth naming, because it transfers: a Quickbase operational core, with a custom web front end on AWS giving thousands of students and employees a simple web experience, no Quickbase seat required for each participant. Saint Louis University converted its annual ContactPath license to a perpetual, unlimited-user license, took over the portal code and day-to-day operations in a structured 2024 handoff, and continues to run the system. It was a 42-month engagement (2020–2024) that ended the way institutional software should: with the client owning infrastructure it intends to keep.

Why this was a serious software problem

This was compliance at population scale, under regulated conditions, on public deadlines.

The systems had to trace cases and contacts across housing, course enrollments, and gatherings; record clinic doses and report them to a state immunization system that enforces an exacting HL7 2.5.1 specification; verify proof of vaccination for an entire university community before residence halls opened; process medical and religious exemptions defensibly; and absorb rule changes every time public-health guidance shifted.

The work involved protected health information and was delivered under signed HIPAA Business Associate Agreements.

Fast facts from the public record

June 8, 2021: SLU's president announces a COVID-19 vaccination requirement for all students, faculty, and staff on its St. Louis campuses, with the fall semester eleven weeks away.

Nearly 40 vaccination clinics hosted in SLU's Simon Recreation Center in spring 2021 alone.

July 6, 2021: SLU announces an online portal where faculty, staff, and students will upload proof of vaccination and request exemptions.

97% of students expected fully vaccinated by September 2021, the remainder holding approved medical or religious exemptions, as reported by the St. Louis Post-Dispatch.

As of July 2026: all admitted SLU students are required to submit proof of required immunizations and screenings through the university's online vaccination portal.

The problem

Contact tracing at a residential university is a data problem before it is anything else. Investigators need to know who lives in which building, floor, and room; who is enrolled in which courses; who attended which gatherings; who counts as a close contact under current guidance; and who still needs to be interviewed, notified, tested, or cleared. In December 2020, with cases climbing, SLU needed that discipline immediately, for a campus community of thousands, with the relevant data scattered across its Banner student-information system, housing records, and the contact-tracing team's working files.

Vaccination brought a second obligation. SLU administered COVID-19 vaccines at on-campus clinics that served the university and residents of the St. Louis area, hosting nearly 40 clinics in the Simon Recreation Center in spring 2021 alone. Every dose had to be reported to ShowMeVax, Missouri's statewide immunization information system, in HL7 2.5.1 messages the state validates against its implementation guide. A rejected message is an unreported dose.

Then came the deadline. On June 8, 2021, SLU's president announced that COVID-19 vaccination would be required for all students, faculty, and staff on the university's St. Louis campuses, with the fall semester eleven weeks away and residence-hall move-in set for August 18. The university now had to collect and verify proof of vaccination for its entire community, rule on medical and religious exemption requests, and report compliance to leadership. On July 6, SLU told its community an online portal was coming. That portal did not yet exist.

What Watkyn built

ContactPath: case investigation and contact tracing. Watkyn deployed ContactPath in December 2020 and configured it with SLU's teams screen by screen: a housing model down to building, floor, and room; outbreak tracking across gatherings, sports teams, fraternities and sororities, and course sections; structured case interviews with a defined contact-elicitation window; close-contact classification; quarantine and isolation management, from on- and off-campus housing assignments to meal coordination for students in quarantine; and investigator caseloads with role-based permissions. Student and course-enrollment imports from Banner and symptom-check records from the university's CampusClear symptom-check app gave investigators campus context, and single sign-on put the system behind the university's identity controls.

Clinic vaccination records, reported to the state over HL7. In January 2021, Watkyn built the Quickbase application that recorded every vaccination administered at SLU's clinics: vaccines, lots, manufacturers, administration sites and routes, and recipients, with appointment data flowing in from Acuity Scheduling. Recipient demographics from Banner were mapped to HL7 code sets, and each dose went to ShowMeVax as an HL7 2.5.1 message, implemented and validated against the state's WebIZ implementation guide and the NIST Immunization Test Suite, with state validation errors reconciled until submissions were accepted. Batch submissions moved to production in July 2021, and in 2022 the integration was upgraded to real-time submission over the state's SOAP web service.

The compliance portal, built in about two weeks. When the vaccine requirement was announced, Watkyn built the system behind SLU's proof-of-vaccination process: a Vaccination Tracker application in Quickbase and a custom web portal running in SLU's AWS environment, with Amazon S3 document storage behind securely generated upload links, a Node.js application on Elastic Beanstalk, and Quickbase Pipelines automating the flow between them. Students and employees uploaded vaccine cards or requested medical or religious exemptions; automated Banner feeds kept the campus population current; Student Health staff worked verification queues; and leadership got compliance reporting as move-in approached. The first build session was in early July 2021. The portal was live and accepting submissions by mid-July, and on July 28 the university emailed its community: "Upload your vaccine card to SLU's online portal now." When SLU required booster doses for spring 2022, the system absorbed that too.

From emergency response to permanent student-health infrastructure. As requirements evolved, the platform evolved with them: booster tracking, mpox vaccination in 2022, tuberculosis screening, and history-of-disease requirements. In 2022 and 2023, Watkyn rebuilt and extended the portal into SLU Health Connect, the university's system for every required immunization and screening. Health Connect also gave students a direct channel to report illnesses and symptoms remotely to clinical staff, who review reports, send guidance, and

"Phillip Dennis and team worked with us to really understand our needs and create a solution in a very short period of time. ... The end result has increased our efficiency and ability to collaborate."

— Renée Jonas,
Director, SLU Student
Health Center

Environment and integration pattern

- Quickbase
- Quickbase Pipelines
- custom web portal on AWS (S3, Lambda, Elastic Beanstalk, Node.js)
- Ellucian Banner student-information-system feeds
- Okta single sign-on
- CampusClear symptom-check integration
- HL7 2.5.1 reporting to ShowMeVax, Missouri's immunization information system (batch and real-time SOAP)
- Acuity Scheduling
- delivered under signed HIPAA Business Associate Agreements

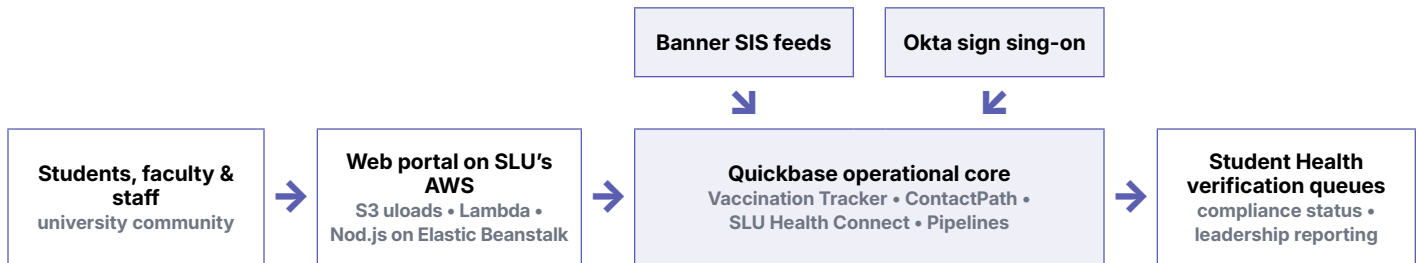


track each case, with exposure notifications connected to ContactPath; its disease logic was re-architected for variable disease profiles, so the same system can support influenza and other communicable illnesses campus health staff choose to monitor. The licensing history tells the adoption story plainly: after its first year, the university converted its annual ContactPath license to a perpetual, unlimited-user license, effective December 2021. In 2024, Watkyn completed a structured handoff of the portal's code repositories, deployment procedures, and operations to SLU's own team. The portal remains in production as of July 2026, and every admitted SLU student is directed to it to submit required health records.



How a record moved through the systems

PROOF-OF-VACCINATION AND COMPLIANCE PATH



CLINIC REPORTING TO THE STATE



System pattern: a Quickbase operational core with a campus-facing AWS front end, university identity and SIS feeds, and HL7 reporting to the state.

Program outcomes on the public record

The outcomes below belong to Saint Louis University and the State of Missouri. Watkyn's role was the systems: the tracing platform, the clinic records and state reporting, and the compliance portal. Each item is drawn from Saint Louis University's published communications or press coverage and linked at the source.

The requirement and the runway. On June 8, 2021, SLU announced that COVID-19 vaccination would be required for all students, staff, and faculty for the fall semester, then eleven weeks away. The same announcement noted that the university had already hosted nearly 40 vaccination clinics in the Simon Recreation Center during the spring semester.

Source: [Saint Louis University announcement, June 8, 2021](#)

The portal, announced and delivered. On July 6, 2021, SLU told its community that an online portal was being developed for uploading proof of vaccination and requesting religious or medical exemptions. The portal was live and accepting submissions that same month.

Source: [Saint Louis University COVID-19 update, July 6, 2021](#)

Compliance at population scale. As students moved in for fall 2021, the *St. Louis Post-Dispatch* reported that SLU expected 97% of students to be fully vaccinated by September, with the remaining 3% holding approved medical or religious exemptions.

Source: [St. Louis Post-Dispatch](#)

A second year, and a bigger portal. For fall 2022, SLU kept its primary-series vaccination requirement in place and told its community it was making improvements to the online portal. That expansion became SLU Health Connect, covering every required immunization and screening.

Source: [Saint Louis University message, June 22, 2022](#)

Still in production. As of July 2026, SLU's required-records page states that all admitted students are required to submit proof of required immunizations and screenings through the university's online vaccination portal: the system Watkyn built and handed off.

Source: [Saint Louis University, Required Records and Health Forms](#)

What the university received

Institutional buyers evaluate what they hold when the engagement ends. Saint Louis University's position at handoff: the applications running in the university's own Quickbase account and AWS environment; a perpetual, unlimited-user ContactPath license; the code repositories and deployment procedures for the web portal, transferred to SLU's team with working instruction sessions; training and guidance for the staff who operate the system day to day; and full ownership of its data throughout, under the terms of the governing agreements. Watkyn's role ended with the university operating independently.

What this proves

This engagement shows what Watkyn can do:

- Deploy and adapt a working application when a client needs capability immediately.
- Build state-reporting integrations to exacting specifications and keep them clearing.
- Stand up population-scale compliance systems in weeks when a public commitment demands it.
- Keep pace as requirements change month after month.
- Hand off working infrastructure so the client can operate independently.

It also demonstrates the adoption evidence that matters most. Saint Louis University renewed, then bought a perpetual, unlimited-user license, then took over the portal code and operations, and still runs the platform as everyday student-health infrastructure. And it is a proof case for the platform pattern Watkyn favors where thousands of people need a simple web experience: a Quickbase operational core, extended with a custom external web front end.

Relevant past-performance categories

- **Public-health case management**
- **contact tracing**
- **immunization-compliance tracking**
- **state HL7 / immunization-registry integration**
- **high-volume document intake and verification**
- **exemption workflows**
- **quarantine and isolation housing workflows**
- **student-information-system and identity integration (Banner, Okta)**
- **AWS web applications**
- **HIPAA-governed delivery under Business Associate Agreements**
- **licensing, knowledge transfer, and client handoff**

Use this pattern when you need to

- Stand up a compliance program that touches everyone in your organization, on a deadline.
- Collect, verify, and track documents from thousands of people, with defensible exemption workflows.
- Report health data to a state or federal system that enforces an exacting specification.
- Put a simple external web experience in front of a Quickbase operational core.
- Turn an emergency system into durable infrastructure your own team can run.

The pattern fits colleges and universities, public-health agencies and departments, employee-health and occupational-health programs, and any organization running population-scale compliance.

Why this matters to public-health agencies. The same pattern transfers directly to public-health operations: immunization registries and IIS reporting, disease-specific case management and contact tracing, employee-health and occupational-health mandates, permitting and compliance programs, and any program that collects records from the public, verifies them, and reports to a state system. Watkyn builds for government and public-health buyers under the same disciplines described here, including HIPAA-governed delivery.

Need to launch or modernize a health-compliance, case-management, intake, or reporting system?

Watkyn builds Quickbase and custom software systems for universities, agencies, and health programs that need controlled intake, verification, state reporting, and long-term support. Tell us what you need to track, verify, or report.

Talk to us about your health-compliance system

Program outcomes described in this case study belong to Saint Louis University and the State of Missouri. ContactPath® is a registered trademark of Watkyn LLC.

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“ContactPath, Vaccine Tracking, and everything in between”

“Phillip and the Watkyn team have been instrumental in helping us organize key departments and information during a time of almost constant change and uncertainty. The flexibility of the apps they have created has allowed our teams to quickly adjust according to new public health guidance, and has strengthened inter-departmental communication.”

— Ashley Gomei, COVID-19 Prevention Services Manager, Saint Louis University

